

REMARKS

By this amendment, claims 1 and 11 are revised to place this application in condition for allowance. The amendments do not add new matter. Currently, claims 1-11 are before the Examiner for consideration on their merits.

Claims 1-11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 1,989,380 (Romans) in view of U.S. Patent No. 6,824,794 (Ring et al.). Applicant respectfully traverses the obviousness rejection, and submits that the cited references, either alone or in combination, fail to establish a *prima facie* case of obviousness with regard to claims 1-11.

An example of the disclosed embodiments is shown by claim 1, which recites a method of treating water containing chloramine as a disinfectant. The method comprises the step of introducing copper ions to the water. The water is reticulated water.

Another example of the disclosed embodiments is shown by claim 11, which recites a method of substantially eliminating biofilm formed in bodies of reticulated water or vessels or pipes containing bodies of reticulated water. The method comprises the step of introducing chlorine, ammonia and copper ions into the water.

Applicant submits that neither of the references disclose or suggest all the features of the claims. Romans relates to the prevention and removal of slime formations on the cooling surfaces of condensers using chloramine. As acknowledged in the Office Action, Romans does not teach a step for introducing copper ions into the water. The Office Action cites Ring as teaching this feature missing from Romans.

Applicant submits that the use of copper ions to kill bacteria in chloraminated water is not disclosed or suggested by Romans and Ring. The Office Action uses the references to show that it is known to treat water with chlorine or add copper ions to remove slime or bacteria. Applicant submits that these references do not disclose or suggest using copper ions in reticulated water having chlorine and ammonia, or chloramine. Romans merely describes the use of chloramine in condensers, and not reticulated, or drinking, water. Thus, Romans also fails to disclose or suggest this feature of the claims.

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Ring fails to provide the features of the claims missing from Romans. Ring relates to the prevention of bacteria and algae in recreational water bodies, such as swimming pools or hot tubs. Ring does not disclose or suggest the treatment of reticulated water with copper ions. In fact, Ring describes the problems of using copper ions to treat water by noting the tendency of copper ions to react with naturally occurring anions in the water and to precipitate as insoluble salts, at column 2, lines 23-44. Thus, Ring does not disclose or suggest those features of the claims missing from Romans.

Further, applicant submits that no suggestion or motivation is shown by the Office Action to modify Romans with the teachings of Ring. Applicant submits that no suggestion or motivation exists to use copper in chloraminated water. The claimed invention pertains to the particular problem of the propensity for chloramines to decay to produce free ammonia, which is then subject to nitrification. The addition of copper ions acts to ameliorate this problem.

It is not common practice to introduce copper ions into drinking water due to copper's tendency to precipitate from water, as noted by Ring. In the present invention, however, the copper ions combine with ammonia to form complex ions to remain in solution. Neither Romans nor Ring, either alone or in combination, disclose or suggest achieving such a result.

Thus, applicant maintains that no teaching, suggestion or motivation in the cited references is shown to exist to introduce copper ions into chloraminated water. Indeed, the references describe that the two processes are both known as alternative methods of restricting bacterial growth in recreational water bodies, such as swimming pools. As such, applicant submits that there is no known problem to which the combination of chloramine and copper represents an obvious solution. Therefore, it would not be obvious to combine the use of chloramine with the use of copper ions in the treatment of reticulated water.

Further, applicant submits that Romans and Ring teach away from their combination. As discussed above, Romans describes the use of chloramine to prevent slime formation on condensers. Ring, on the other hand, describes the drawbacks of using chlorine in the treatment of water by stating, for example, "chlorine and bromine

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based treatment agents frequently cause skin and eye irritation and are easily recognized by their unpleasant smell” and that chlorine “[reacts] with organic matter in the water to produce foul smelling chloramines,” at column 1, lines 54-59. Ring then cites these drawbacks as reasons the use of chloramines is undesirable in treating water. Thus, Ring teaches away from using chloramine in the treatment of water due to the unpleasant side effects. It is improper to combine references where the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743 (Fed. Cir. 1983); MPEP 2145. Because Ring teaches away from using the subject matter of Romans to treat water, applicant respectfully submits it would be improper to combine the references.

Further, applicant submits that Ring teaches away from the claims. Ring describes a benefit of using its process to treat water is the production of a blue color in the treatment agent that is transferred to the water body. As noted in column 5, lines 15-25, “it is esthetically pleasing to the eye to make recreational water bodies appear blue in color.” Applicant submits that it is not pleasing to make reticulated water, such as drinking water, blue in color. Using the processes described in Ring would result in blue water that no one would want to drink. Thus, the teachings of Ring teach away from the claims. The prior art must be considered in its entirety, including disclosures that teach away from the claims. MPEP 2141.02. Because Ring teaches away from the claims, it cannot be used to establish a *prima facie* case of obviousness.

In view of the remarks provided above, applicant submits that claims 1 and 11 are not rendered obvious by Romans and Ring, either alone or combination. Claims 2-10 depend directly or indirectly from claim 1 and are allowable for at least the reasons given above. Applicant respectfully requests that the obviousness rejection of claims 1-11 be withdrawn.

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SUMMARY

It is submitted that this response addresses all formal matters raised in the Action and demonstrates that the rejections based on Romans and Ring do not establish a *prima facie* case of obviousness against claims 1-11. Therefore this application is now in condition for allowance.

Accordingly, the Examiner is requested to examine this application and pass all pending claims onto issuance.

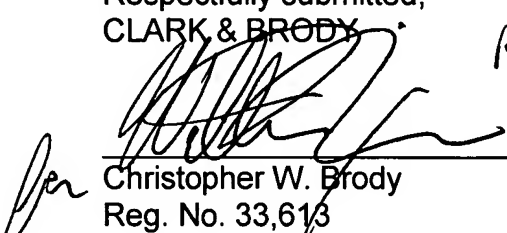
If the Examiner believes that an interview would be helpful in expediting the allowance of this application, the Examiner is requested to telephone the undersigned at 202-835-1753.

Again, reconsideration and allowance of this application is respectfully requested.

The above constitutes a complete response to all issues raised in the Office Action dated November 28, 2007.

Applicant respectfully petitions for a three month extension of time to respond to the Office Action. A check in the amount of \$1,050.00 is attached for the extension of time fee, however, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,
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